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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,328	08/26/2003	Paul A. Knight	ISOT-018	4606

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Michael S. Neustel  
Suite No. 4  
2534 South University Drive  
Fargo, ND 58103

EXAMINER

PAPE, ZACHARY

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/649,328

Applicant(s)

KNIGHT ET AL.

Examiner

Zachary M. Pape

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The following detailed action is in response to the correspondence filed 5/12/2006.

#### ***Response to Arguments***

1. Applicant's arguments, see Page 9 "The space shown in Figure 2 of Przilas is merely a channel to direct the flow of air about the wet chamber and is not sealed", filed 5/12/2006, with respect to the rejection(s) of claim(s) 1-20 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration of the newly added limitations, a new ground(s) of rejection is made in view of Tennant et al. (US 6,060,966).

Applicant's residual arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Objections***

2. Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 15 recites, "said dry access door is capable of sealing said dry chamber" when parent claim 11 already recites, "dry access door completely seals said dry chamber".

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 7, 12, 23, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 7, 12, 23 and 27 recite, "consisting essentially of" which is indefinite.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9-17, 21-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Tennant et al.

With respect to claim 1, Tennant et al. teaches a spray cool system with a dry access chamber, comprising: a chassis (50) having a wet chamber (Between 50 and 12/13) and a dry chamber (12-14), wherein said wet chamber is for thermally managing an electronic device by applying liquid coolant to an electronic device within said wet chamber; a dry access door removably attached about said dry chamber wherein said dry access door completely seals said dry chamber; and a wet access door removably attached about said wet chamber, wherein said wet access door completely seals said

wet chamber (See Column 4, Lines 48-52 wherein the wet and dry chambers must be sealed in order to operate as described).

With respect to claim 11 and 15, as best can be understood by the Examiner, Przilas et al. further teaches a spray cool system with a dry access chamber, comprising: a chassis (50) having a wet chamber (Between 50 and 12,13) and a dry chamber (14), wherein said wet chamber is for thermally managing an electronic device by applying liquid coolant to an electronic device within said wet chamber; wherein said wet chamber includes a coolant spray system (24) for thermally managing an electronic device (45); wherein said dry chamber (14) includes a coolant system fluidly connected to said coolant spray system (Via 20, 22, and 30); a dry access door removably attached about said dry chamber wherein said dry access door completely seals said dry chamber; and a wet access door removably attached about said wet chamber, wherein said wet access door completely seals said wet chamber (See Column 4, Lines 48-52 wherein the wet and dry chambers must be sealed in order to operate as described).

With respect to claim 21, Tennant et al. further teaches a spray cool system with a dry access chamber, comprising: a chassis having a wet chamber (Between 50 and 12, 13) and a dry chamber (12-14), wherein said wet chamber is for thermally managing an electronic device by applying liquid coolant to an electronic device within said wet chamber; a dry access door removably attached about said dry chamber; and a wet access door removably attached about said wet chamber, wherein said wet access door is capable of sealing said wet chamber (Column 4, Lines 48-52); wherein said wet

access door is exposed externally of said dry chamber (See Fig 1 where the wet access door will cover the opening in 50 which is external to the dry chamber (12-14))

With respect to claims 2 and 22, Tennant et al. further teaches that said wet chamber includes a coolant spray system (24, 30, etc.).

With respect to claims 3, 12, and 23, Tennant et al. further teaches that said coolant spray system is comprised of components chosen from the group consisting essentially of a spray unit (30), a sensor, a card cage, an intake valve and a condenser.

With respect to claims 4 and 24, Tennant et al. further teaches that said coolant spray system is fluidly connected to a coolant system positioned within said dry chamber (See Fig 1 where the fluid that enters at 22 is part of the coolant spray system).

With respect to claims 5 and 25, Tennant et al. further teaches that the dry chamber (12-14) includes a coolant system fluidly connected to said wet chamber (Via 20, 22, and 24).

With respect to claims 6, 13, and 26, Tennant et al. further teaches that the coolant system is fluidly connected to a spray unit (30) positioned within said wet chamber (50, see Fig 1).

With respect to claims 7, 14, and 27, Tennant et al. further teaches that the coolant system is comprised of components chosen from the group consisting essentially of a filter, a pump (60), a heater, a sensor and a separator.

With respect to claims 9, 16, and 28, Tennant et al. further teaches that the dry chamber is adjacent to said wet chamber within said chassis (As illustrated in Fig 1).

With respect to claims 10, 17, and 29, Tennant et al. further teaches that the dry chamber is sealed from said wet chamber (See Column 4, Lines 48-52 wherein the dry chamber must be sealed in order to perform as described).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tennant et al. in view of Crowley (US 6,452,788).

With respect to claims 18-20, Tennant et al. teaches the limitations of claim 1 above, but fails to teach that the dry access door is pivotally attached to the chassis. Crowley teaches the conventionality of pivotally attaching a door (70) to a chassis (50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the pivoting features of Crowley with the spray cooling system of Tennant et al. to provide a pivoting feature on the dry access door (16). Pivotally attaching the dry access door (16) to the chassis allows the door to remain attached to the chassis and hence the user cannot lose the door. Further allowing the door to pivot makes the door easier to operate since it will not need to be fully unsecured from the chassis (i.e. all the fastening members wouldn't have to be removed).

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 7,043,933 and US 2005/0252024 filed by the same applicant and prosecuting attorney (Paul Knight and Michael Neustel respectively) which further teaches a dry-wet thermal management system.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-2201. The examiner can normally be reached on Mon. - Thur. & every other Fri. (8:00am - 5:00pm).



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ZMP

*Lisa Lea Edmonds*  
**LISA LEA-EDMONDS**  
**PRIMARY EXAMINER**